

December 31, 2003

Gary A. Wright, Ph.D.  
Chairman, IIAHC HPV Review Committee  
The Isocyanurate Industry Ad Hoc Committee  
715 Eighth Street, SE  
Suite 3  
Washington, DC 20003

Dear Dr. Wright:

The Office of Pollution Prevention and Toxics is transmitting EPA's comments on the robust summaries and test plan for Trichloro-s-triazinetrione posted on the ChemRTK HPV Challenge Program Web site on August 21, 2003. I commend The Isocyanurate Industry Ad Hoc Committee for its commitment to the HPV Challenge Program.

EPA reviews test plans and robust summaries to determine whether the reported data and test plans will provide the data necessary to adequately characterize each SIDS endpoint. On its Challenge Web site, EPA has provided guidance for determining the adequacy of data and preparing test plans used to prioritize chemicals for further work.

EPA will post this letter and the enclosed comments on the HPV Challenge Web site within the next few days. As noted in the comments, we ask that the Committee advise the Agency, within 60 days of this posting on the Web site, of any modifications to its submission. Please send any electronic revisions or comments to the following e-mail addresses: [oppt.ncic@epa.gov](mailto:oppt.ncic@epa.gov) and [chem.rtk@epa.gov](mailto:chem.rtk@epa.gov).

If you have any questions about this response, please contact Richard Hefter, Chief of the HPV Chemicals Branch, at 202-564-7649. Submit questions about the HPV Challenge Program through the "Contact Us" link on the HPV Challenge Program Web site pages or through the TSCA Assistance Information Service (TSCA Hotline) at (202) 554-1404. The TSCA Hotline can also be reached by e-mail at [tsca-hotline@epa.gov](mailto:tsca-hotline@epa.gov).

I thank you for your submission and look forward to your continued participation in the HPV Challenge Program.

Sincerely,

-S-

Oscar Hernandez, Director  
Risk Assessment Division

Enclosure

cc: W. Penberthy  
M. E. Weber

## **EPA Comments on Chemical RTK HPV Challenge Submission: Trichloro-s-Triazinetrione**

### **Summary of EPA Comments**

The sponsor, the Isocyanurate Industry Ad Hoc Committee, submitted a test plan and robust summaries to EPA for trichloro-s-triazinetrione (CAS No. 87-90-1), on August 11, 2003. EPA posted the submission on the ChemRTK HPV Challenge Web site on August 21, 2003.

EPA has reviewed this submission and has reached the following conclusions:

1. Physicochemical Properties. The submitter needs to provide clarifications or additional data on melting point, boiling point and vapor pressure.
2. Environmental Fate. The submitter needs to provide data on the reaction rate of trichloro-s-triazinetrione in water and additional information to justify the use of isocyanuric acid and sodium cyanurate monohydrate as surrogates of trichloro-s-triazinetrione.
3. Health Effects. The submitter needs to provide additional information to justify the use of isocyanuric acid and sodium cyanurate monohydrate as surrogates of trichloro-s-triazinetrione.
4. Ecological Effects. The submitter needs to provide data on the algal toxicity of trichloro-s triazinetrione.

### **EPA Comments on Trichloro-s-triazinetrione**

#### **Test Plan**

In September 1992, EPA published a pesticide Reregistration Eligibility Document (RED) on Chlorinated Isocyanurates that included trichloro-s-triazinetrione (CAS No. 87-90-1). Data on both trichloro-s-triazinetrione, also known as trichloroisocyanuric acid, and s-triazinetrione, also known as isocyanuric acid, (CAS No. 108-80-5) or its sodium salt (CAS No. 2624-17-1) were submitted to support reregistration. It is stated in the RED:

“Since the chronic effects of chlorine for humans are well known, EPA determined that isocyanuric acid can represent all the chlorinated isocyanurates for the purpose of conducting metabolism, subchronic, chronic, developmental, and mutagenicity studies. By using the nonchlorinated s-triazinetrione as the test substance, the effects of the triazinetrione moiety could be distinguished from those of the chlorine.”

For the HPV Challenge Testing Program, the submitter proposes using data on isocyanuric acid to estimate certain health effects and the environmental fate of its chlorinated derivatives on the basis that the chlorinated isocyanurates hydrolyze with use in water to form isocyanuric acid and free available chlorine as hypochlorous acid. The acceptance of this proposal depends on the availability and results of hydrolysis data, as well as whether all uses of trichloro-s-triazinetrione involve mixing with water. If not, the submitter needs to provide additional data to support the use of isocyanuric acid in the test plan.

Physicochemical Properties (melting point, boiling point, vapor pressure, partition coefficient and water solubility).

The data provided by the submitter for partition coefficient and water solubility are adequate for the purposes of the HPV Challenge Program.

*Melting point /boiling point.* For data entry purposes, the submitter needs to provide a separate robust summary for each endpoint.

*Vapor pressure.* The submitter provided two open-ended values for this endpoint (<1 mm Hg, and less than 0.002 Pa). Open-ended values are not adequate for the purposes of the HPV Challenge Program. The submitter needs to provide a specific value for this endpoint, unless precluded by experimental obstacles.

#### Environmental Fate (photodegradation, stability in water, biodegradation, transport and distribution (fugacity)).

Adequate data are available for photodegradation, biodegradation, and transport and distribution for the purposes of the HPV Challenge Program, provided the submitter can justify the use of surrogate data on isocyanuric acid and monosodium cyanurate.

*Stability in water.* The submitter indicates in the test plan cover letter that the chlorinated isocyanurates hydrolyze to form isocyanuric acid and free available chlorine, undergoing equilibria to form chlorinated and non-chlorinated isocyanurates. However, the robust summary indicates that this chemical is unstable in the environment because “the available chlorine is rapidly reduced,” and that cyanuric acid is the degradation product. The submitter needs to explain this point in more detail to reconcile the information in the test plan and robust summary.

The submitter also needs to provide data on the reaction rate of trichloro-s-triazinetriene in water to clarify the significance of the reactions and the reasonableness of the proposed approach to justify the use of isocyanuric acid and sodium cyanurate monohydrate as surrogates of their trichloro- analog. The ability to isolate sodium dichloro-s-triazinetriene dihydrate is also unexplained with respect to the purported instability of trichloro-s-triazinetriene.

#### Health Effects (acute toxicity, repeated-dose toxicity, genetic toxicity, and reproductive/developmental toxicity).

Adequate data are available for all endpoints for the purposes of the HPV Challenge Program, provided the submitter can justify the use of surrogate data on isocyanuric acid and monosodium cyanurate for the genetic, reproductive and developmental toxicity endpoints.

#### Ecological Effects (fish, invertebrates, and algae).

Adequate data are available for fish and invertebrates for the purposes of the HPV Challenge Program. The submitter did not provide alga data that measured biomass or growth rate using appropriate test guidelines. Therefore, the submitter needs to conduct a 72- or 96-hour algal study on trichloro-s-triazinetriene to determine growth rate or biomass according to OECD TG 201.

### **Specific Comments on the Robust Summaries**

#### Health Effects

*Acute toxicity.* The submitter needs to provide additional information on clinical signs in the first oral study (CAS No. 87-90-1) so that results can be compared with the oral study on CAS No. 108-80-5.

*Developmental toxicity.* In the study by Springborn Laboratories, Inc. (18b), the submitter needs to provide additional data on the historical controls for post-implantation losses (e.g., dates for the control data are needed to confirm that they are recent and the laboratory should be specified to confirm that the studies were conducted at the same laboratory).

#### **Followup Activity**

EPA requests that the submitter advise the Agency within 60 days of any modifications to its submission.